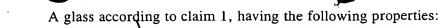
1. A glass comprising:

	1	
Oxide		Mole %
SiO ₂		35 – 75
GeO ₂		0-10
B ₂ O ₃		0 - 8
Al ₂ O ₃		0 – 8
Li ₂ O		>0 - 25
Na ₂ O	1	0 - 60
K ₂ O		0 - 6
MgO		0 - 35
Σ BaO, SrO, CaO, ZnO, Pt	þ	0 – 10
TiO ₂		0 – 5
La ₂ O ₃		0 - 30
RE ₂ O ₃		0 - 12
Y ₂ O ₃		>0 - 30
As ₂ O ₃		0 - 0.5
F		0 - 5
Sum R ₂ O ₃ , R=Al, B, La and R	E	0 – 40

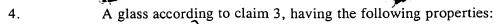
wherein RE represents rare earth ions, excluding La.



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Property	Range
Na	>1.5
T(%) at 1550 nm for 1.0 mm	>88
CTE	\geq 90, especially \geq 110
(-30 to +70°C)	
x 10 ⁻⁷ / ⁰ C	
E (GPa)	> 80
Tg (°C)	<u>></u> 350

3. A glass according to claim 1,

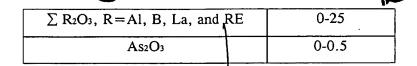
Oxide	<u> =</u>	Mole %
SiO ₂		40 – 70
GeO ₂		. 0-5
B ₂ O ₃		0 – 5
Al ₂ O ₃		0 – 5
Li ₂ O		>0 - 25
Na ₂ O		0 - 35
K ₂ O		0 – 5
MgO		0 - 25
Σ BaO, SrO, CaO, ZnO,	PbO	0 - 5
TiO ₂		0 - 3
La ₂ O ₃		0 – 12
RE ₂ O ₃		0 - 10
Y2O3		>0 - 25
As ₂ O ₃		0 - 0.3
· F		0 - 3
Sum R ₂ O ₃ , R=Al, B, La an	nd RE	0 – 40



Property	Range
Na	1.50 - 1.70, especially
	1.50 - 1.65
T(%) at 1550 nm for 1.0	>90
mm	
CTE	>100, especially >110
$(-30 \text{ to } +70^{\circ}\text{C})$	·
x 10 ⁻⁷ / ⁰ C	•
Tg (°C)	<u>></u> 400
E [GPa]	>85

5. A glass comprising:

Oxide	Mole %
SiO ₂	40-60
GeO ₂	0-10
B ₂ O ₃	0-10
Al ₂ O ₃	0-4
Li ₂ O	>0-26
Na ₂ O	>0-26
K ₂ O	0-15
MgO	0-15
Σ BaO, SrO, CaO, ZnO, PbO	0-10
TiO ₂	0-9
ZrO ₂	0-2
La ₂ O ₃	0-4
Re ₂ O ₃	0-4
Y2O3	>0-5
Sc ₂ O ₃	0-4
Nb ₂ O ₅	0-2
F	0-5



wherein RE represents rare earth ions, excluding La.

6. A glass according to claim 5, having the following properties:

Property	Range
Nd	> 1.5
T(%) at 1550 nm for 1.0	
mm	> 88
CTE	
(-30 to +70°C)	≥ 90
x 10 ⁻⁷ /°C	
E (GPa)	> 80
Tg (°C)	≥ 350

7. A glass according to claim 5 comprising:

Oxide		Mole %
SiO ₂		45-55
GeO ₂		0-5
B2O3		0-8
Al ₂ O ₃		0-2
Li ₂ O		>0-17
Na ₂ O		>0-19
K ₂ O		0-6
MgO		0-13
∑ BaO, SrO,CaO, ZnO,	PbO	0-5
TiO ₂		0-5
ZrO ₂		0-1
La ₂ O ₃		0-3
RE ₂ O ₃		0-3

Y ₂ O ₃	>0-4.5
Sc ₂ O ₃	0-3
Nb ₂ O ₅	0-1
F	0-3
\sum R ₂ O ₃ , R=Al, B, La, and RE	0-15
As ₂ O ₃	0-0.3

8. A glass according to claim 7, having the following properties:

Property	Range
Troperty	Range
Πd	1.50-1.70
T(%) at 1550 nm for 1.0	
mm	> 90
CTE	
$(-30 \text{ to } +70^{\circ}\text{C})$	≥ 100
x 10 ⁻⁷ /°C	
Tg (°C)	≥ 400
E [GPa]	> 85

9. A glass comprising:

Oxide		Mole %
SiO ₂		45.0-58.0
B ₂ O ₃		0.0-5.0
A12O3		0.0-3.0
Li20		6.5-16.5
Na ₂ O	·	7.0-24.0
K₂O		0.0-12.0
MgO		0.0-8.0
CaO		0.0-8.0

1	
SrO	0.0-8.0
BaO	0.0-8.0
· TiO ₂	0.0-12.0
ZrO ₂	0.5-5.5
Ta ₂ O ₅	0.0-1.0
Gd ₂ O ₃ +La ₂ O ₃ +Y ₂ O ₃	2.70-3.30
AS2O3	0.0-0.15

wherein RE represents rare earth ions, excluding La.

10. A glass according to claim 9, having the following properties:

Property	Range
nd	>1.5
T(%) at 1550 nm for 1	0 >88
mm	
CTE	<u>></u> 90
$(-30 \text{ to } +70^{\circ}\text{C})$	
x 10 ⁻⁷ /°C	
E (GPa)	>80
Tg (°C)	400-485

11. A glass according to claim 9, comprising:

Oxide	Mole %
SiO ₂	46.0-52.0
Al ₂ O ₃	0.0-1.5
B ₂ O ₃	0.0-1.0
Li ₂ O	7.0-16.0
Na ₂ O	7.0-20.0
K ₂ O	4.0-12.0
MgO	0.0-7.5
CaO	0.0-7.5
SrO	0.0-7.5
BaO	0.0-7.5
TiO ₂	1.0-10.5
ZrO ₂	1.5-5.0
Ta2O ₅	0.3-0.7
$La_2O_3 + Gd_2O_3 + Y_2O_3$	2.6-2.9
As ₂ O ₃	0.0-0.15

12. A glass according to claim 11, having the following properties:

]
Property	Range
Nd	1.50 - 1.70
T(%) at 1550 nm for 1.0	>88
mm	
CTE	>100
$(-30 \text{ to } +70^{\circ}\text{C})$	
x 10 ⁻⁷ /°C	
Tg (°C)	415-480
E [GPa]	>80

- 13. An interference filter comprising a glass substrate having at least two interference layers coated thereon, wherein the glass substrate is a glass according to claim 1.
- 14. An interference filter comprising a glass substrate having at least two interference layers coated thereon, wherein the glass substrate is a glass according to claim 5.
- 15. An interference filter comprising a glass substrate having at least two interference layers coated thereon, wherein the glass substrate is a glass according to claim 9.
- 16. A fiber optic system comprising a light source, a fiber optic transmission component, a receiver of transmitted radiation and an interference filter comprising a glass substrate having at least two interference layers coated thereon, said glass substrate comprising a glass according to claim 1.
- 17. A fiber optic system comprising a light source, a fiber optic transmission component, a receiver of transmitted radiation and an interference filter

comprising a glass substrate having at least two interference layers coated thereon, said glass substrate comprising a glass according to claim 5.

- 18. A fiber optic system comprising a light source, a fiber optic transmission component, a receiver of transmitted radiation and an interference filter comprising a glass substrate having at least two interference layers coated thereon, said glass substrate comprising a glass according to claim 9.
- 19. A process for making a glass according to claim 1, comprising melting raw materials corresponding to oxides in the glass, refining a resultant glass melt, casting the melt in a mold and optionally annealing.
- 20. A process for making a glass according to claim 1, comprising casting into a mold a glass melt produced from raw materials corresponding to oxides in the glass.
- 21. A process for making a glass according to claim 5, comprising casting into a mold a glass melt produced from raw materials corresponding to oxides in the glass.
- 22. A process for making a glass according to claim 9, comprising casting into a mold a glass melt produced from raw materials corresponding to oxides in the glass.
- 23. A demultiplexing optical component comprising the interference filter of claim 13.
- A demultiplexing optical component comprising the interference filter of claim 14.
- 25. A demultiplexing optical component comprising the interference filter of claim 15.

- 26. A method of demultiplexing, comprising passing an optical signal of multiple wavelengths through a demultiplexing optical component according to claim 23.
- 27. A method of demultiplexing, comprising passing an optical signal of multiple wavelengths through a demultiplexing optical component according to claim 24.
- 28. A method of demultiplexing, comprising passing an optical signal of multiple wavelengths through a demultiplexing optical component according to claim 25.